



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.              | CONFIRMATION NO.       |
|---|-------------|----------------------|----------------------------------|------------------------|
| 10/529,536  | 03/29/2005  | Yasuhito Yuasa       | 10873.1640USWO                   | 4552                   |
| 7590 11/20/2007<br>Hamre, Schumann, Meuller & Larson, P.C.<br>P.O. Box 2902-0902<br>Minneapolis, MN 55402 |             |                      | EXAMINER<br>RODEE, CHRISTOPHER D |                        |
|   |             |                      | ART UNIT<br>1795                 | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>11/20/2007          | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/529,536

Applicant(s)

YUASA ET AL.

Examiner

Christopher RoDee

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,8,9,11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,8,9,11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

The amendment filed 24 February 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the change in the wax from polypropylene to polyethylene is without basis in the specification as filed and applicants have not provided evidence to show that the tradename material specified in Table 2 has is actually a polyethylene wax. Lacking evidence, the amendment is seen as containing new matter.

Applicants traverse this objection based on the disclosure in the specification on page 14. In this passage various release agent waxes are disclosed, including both polypropylene and polyethylene. However, this passage does not establish that the tradename material in Table 2 (LEL 400P) is actually a polyethylene. The Examiner is not taking the position that polyethylene's are not disclosed waxes. Rather, the evidence of record does not establish that LEL 400P is a polyethylene wax. The objection is maintained.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: line 5 of claim 1 contains a typographical error in the word "aminosilane". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 4, 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi *et al.* in US Patent Application Publication 2003/0091923.

This rejection was presented in the last Office action. The limitations of claim 10 have been added to claim 1.

In response to the rejection as previously set forth, applicants traverse the rejection because the carrier is not disclosed as charging a toner negatively for the combination of materials in the coating of the resin. Specifically, applicants take the position, "Kobayashi discloses carriers in which a surface of a core is coated with a resin. The reference provides preferable components such as an aminosilane coupling agent, a silicone resin and a fluorine modified silicone resin. While the reference teaches that an aminosilane coupling agent should be used for negatively chargeable toners, the reference also notes that fluorine type silane coupling agents should be used for positively chargeable toners, and is silent as to the combined use of the two coupling agents for negatively chargeable toners. As such, the reference in no way teaches or suggests using an aminosilane coupling agent together with an organic silicon compound containing polyorganosiloxane and a perfluoro alkyl group in amounts as required by claim 1, so as to impart a negative charge to the toner..."

As noted in the last Office action, "the toner is not a material limitation on the carrier because the claim preamble limits the scope of protection to only the carrier. The toner is not present in the carrier and would be a separate component, such as if in a two-component

developer.” There is no toner present in this claim. Thus arguments with respect to the toner and any characteristics of the toner or its relationship to the carrier are not persuasive.

Although the carrier can be defined with respect to its function on another component, such a limitation would require a clear definition of the other component. In the instant claims, the carrier is defined with respect to the charge it imparts on a toner. The characteristics of the toner are not defined. The need for identification of the toner is particularly important in the two-component developer art where two dissimilar materials are rubbed together to give a charge on each (i.e., triboelectric charging). As is well known in the toner and carrier art, the charge imparted on the toner is determined not only by the carrier but also by the characteristics of the toner. This phenomenon is well-studied and the relationship is known as the triboelectric series (see enclosed citation to Diamond, pp. 220 & 221). A given carrier may impart a positive charge to one toner and the same carrier impart a negative charge to another toner based on the characteristics of both components. In order to define the carrier with respect to the charge on the toner, the composition of the toner must be defined. Because the instant claims do not actually require the toner or define the characteristics of the toner, the limitation and coincident arguments concerning the charge imparted to the toner by the carrier are not persuasive.

Furthermore, Kobayashi's fluorine-containing silicone resin is not a coupling agent as discussed in the response. Kobayashi discusses the silane coupling agents in ¶ [0029] as follows,

“The coating resin preferably contains a silane coupling agent as a charge control agent. Where the exposed core area ratio is relatively low, the charging ability of the carrier tends to reduce, which can be compensated for by addition of a silane coupling agent to the coating resin. While coupling agents that can be used are not limited in kind, it is advisable to use aminosilane coupling agents for negatively chargeable toners and fluorine type silane coupling

agents for positively chargeable toners. The coupling agent is preferably added in an amount of 2 to 60% by weight based on the solids content of the coating resin."

As is apparent from the cited passage, the coupling agents are used in addition to the resins. The resin in Kobayashi is a fluorine-modified silicone resin (¶¶ [0029] – [0033]). There is nothing contrary to the reference's teaching to place both an aminosilane coupling agent and a fluorine-modified silicone resin in the same layer as a coating on a carrier particle. In fact, this is what the reference teaches and would suggest to the skilled artisan.

The effects of the claimed carrier are noted in the response, but there is no evidence of record to show an unexpected result for the claimed carrier as compared to Kobayashi's carriers.

The rejection is still seen as proper and is maintained.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi *et al.* in US Patent Application Publication 2003/0091923 as applied to claims 1, 2, 4, 8, 9, and 11 above, and further in view of Chemical Abstracts Registry for KBE 903 (RN # 919-30-2).

The newly submitted claim 12 directed to the aminosilane as a primary amine. As seen in the enclosed Chemical Abstracts citation, the tradename silane in the examples of Koabayashi (KBE 903) is 3-(Triethoxysilyl)-1-propylamine. This compound is a primary amine noting the two hydrogen atoms attached directly to the nitrogen.

The use of the combination of the exemplified silane with a silicone according to the formula given in ¶ [0031] having perfluoroalkyl units given in ¶ [0033] would have been obvious in order to reduce wear on the carrier particles (¶ [0031]) as discussed in the first Office action. The artisan would have found it obvious to optimize the amounts of these components to obtain these benefits.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on Monday to Thursday from 5:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/529,536  
Art Unit: 1795

Page 7

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher RoDee/  
Primary Examiner  
Art Unit 1795

cdr  
16 November 2007